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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,180

05/25/2005

Werner Teschner

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8529

2119 7590 02/27/2009
RONALD E. GREIGG
GREIGG & GREIGG P.L.L.C.
1423 POWHATAN STREET, UNIT ONE
ALEXANDRIA, VA 22314

EXAMINER

HOGAN, JAMES SEAN

ART UNIT

PAPER NUMBER

3752

MAIL DATE

DELIVERY MODE

02/27/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,180	Applicant(s) TESCHNER ET AL.	
	Examiner JAMES S. HOGAN	Art Unit 3752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17, 20-22, 30-33, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 and 21 is/are allowed.
- 6) ☒ Claim(s) 17, 22, 30-33, 35 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner Note/ Response to Arguments

This action is in response to Notice of Withdrawal From Issue under 37 CFR. 1.313 sent January 21, 2009. It has been determined that newly found art, notably Japanese Patent No. JP-59211759 A to Tanaka et al reads in part upon the amended claims of November 17, 2008, and will be cited, however the prior rejections based upon Claxton et al in view of Takenaka et al can still be valid as the amended claims do not circumvent there obviousness. The argument that the etchings of Takenaka et al are not the embodied individually or are embodies as “dimples” is moot. Column 6, lines 39-43 clearly leave teachings for “pores” or “micropores” which could be synonymous with “dimples” in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17,, 22, 30-33, 35 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,417,694 to Claxton et al in view of U.S. Patent No. 5,409,803 to Takenaka et al

Referring to claim 17, Claxton et al teaches a fuel injection valve (having a body, valve needle (122), valve seat (126), and a valve-sealing face (below 124)). Claxton does not teach microscopic etchings on the valve sealing face. Takenaka et al teaches individual, arguably dimpled microscopic etchings for use on sliding members, specifically for use on a valve guide (or member) as well as a mechanical seal (See Abstract). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the sealing face of Claxton et al with the microscopic etchings of Takenaka et al in order to improve sealing on the valve member as well as provide lubrication to the injection valve. Further, Takenaka et al plausibly teaches etchings separate from each other, as a "roughness" suggests random indentation, and teaches indentations as dimples (microbores). As per claim 22, Takenaka et al teaches making the indentations purposeful for sealing at a spacing from one another that can be calculated from a specified populace of 1000 to 100,00 per mm^2 , which calculates to, at the low end of 1000 micropores per mm^2 , to 32 μm between dimples. As per claim 30 and 31, Takenaka et al teaches (Col. 5, lines 8-13), again for sealing specifications, a depth (CV_k) of 0.5 μm or less, however does not teach a range of between, 0.5 μm to 50 μm , or 3 μm to 20 μm however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have specified a range for the depth of a dimple from between 0.5 μm to 50 μm , or 3 μm to 20 μm , since it has been held that where the general conditions for a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. As per claim 32, Takenaka et al teaches (Col. 5, lines 8-13),

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again for sealing specifications, a width (or diameter) of indentations as being between 5 μm and 100 μm , specifically between 10 μm and 50 μm . As per claim 33, the microbores of Takenaka et al are formed by grinding (Col. 4, line 4, line 24-36) which can argued as being described as spark erosion. As per claims 35 and 36, neither Claxton not Takenaka et al does not teach, per se, how etchings are formed, however it should be noted that the method of forming a device is not germane to the issue of patentability to the device itself. Therefore this limitation has not been given patentable weight, as it would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected know manufacturing and machining techniques in order to produce indentations.

Allowable Subject Matter

Claims 20 and 21 allowed.

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP-59211759 A to Tanaka et al

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES S. HOGAN whose telephone number is (571)272-4902. The examiner can normally be reached on Mon-Fri, 6:00a-3:00p EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Len Tran can be reached on (571)272-1184. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S. H./
Examiner, Art Unit 3752
/Len Tran/
Supervisory Patent Examiner, Art Unit 3752